Abstract

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Magnesium, calcium, potassium, and sodium intakes and risk of stroke in male smokers.

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BACKGROUND: A high intake of magnesium, calcium, and potassium and a low intake of sodium have been hypothesized to reduce the risk of stroke. However, prospective data relating intake of these minerals to risk of stroke are inconsistent.

METHODS: We examined the relationship of dietary magnesium, calcium, potassium, and sodium intake with risk of stroke in a cohort of 26,556 Finnish male smokers, aged 50 to 69 years, who were free from stroke at baseline. Dietary intake was assessed at baseline using a detailed and validated food frequency questionnaire. During a mean follow-up of 13.6 years (1985-2004), 2702 cerebral infarctions, 383 intracerebral hemorrhages, and 196 subarachnoid hemorrhages were identified in the national registries.

RESULTS: After adjustment for age and cardiovascular risk factors, a high magnesium intake was associated with a statistically significant lower risk of cerebral infarction but not with intracerebral or subarachnoid hemorrhages. The multivariate relative risk of cerebral infarction was 0.85 (95% confidence interval, 0.76-0.97; P for trend = .004) for men in the highest quintile of magnesium intake compared with those in the lowest quintile. The inverse association between magnesium intake and cerebral infarction was stronger in men younger than 60 years (relative risk, 0.76; 95% confidence interval, 0.64-0.89; P for interaction = .02). Calcium, potassium, and sodium intake was not significantly associated with risk of any subtype of stroke (P for trend > .05).

CONCLUSION: These findings in male smokers suggest that a high magnesium intake may play a role in the primary prevention of cerebral infarction.

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